

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT**

(Acre)

**CODE 647**

**DEFINITION**

Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.

**PURPOSE**

To provide habitat for species requiring early successional habitat for all or part of their life cycle.

**CONDITIONS WHERE PRACTICE APPLIES**

On all lands where early successional habitat needs to be maintained in a condition that is suitable for the wildlife and plant species that are desired.

**CRITERIA**

**General Criteria Applicable to All Purposes**

Management will be designed to achieve the desired plant community structure (e.g. density, vertical and horizontal cover) and plant species diversity

Many species of wildlife prosper at some stage of plant succession preceding the climax condition. To achieve the desired plant community an essential knowledge of the wildlife species habitat requirements is necessary in order to plan the appropriate management activities.

Refer to the Oklahoma NRCS Upland Wildlife Habitat Management (645) standard, Habitat Appraisal Guides, Biology Technical Notes and other sources of species specific information in order to determine the habitat requirements of wildlife that benefit from early successional habitat.

Early successional management will be designed to achieve the desired plant community in density, vertical and horizontal structure, and plant species diversity needed by the wildlife species targeted for management.

Practices that disturb soil will be designed to reduce soil erosion and maintain soil and water quality criteria.

Management practices and activities are not to disturb nesting cover during the primary nesting period for grassland species (April 1 through June 30). Periodic application of management methods/practices that are necessary to maintain the health of the plant community will be carried out on a rotational basis in order to protect part of the nesting cover from disturbance.

Measures must be provided to control noxious weeds and other invasive species in order to comply with state noxious weed laws.

To protect forbs and legumes that benefit native pollinators and other wildlife and provide insect food sources for grassland nesting birds, spraying or other control of noxious weeds shall be done on a "spot treatment" basis.

Vegetative manipulation to maximize plant and animal diversity can be accomplished by disturbance practices. Used alone or in combination with other techniques, the following methods, including prescribed burning, light disking, chemical treatment, prescribed grazing, or a combination of the above, can successfully manipulate successional stages of habitat.

**Criteria for Light Disking**

Light disking of existing grass stands more than 4 to 5 years old may be necessary to increase the amount of open ground and encourage a diverse plant community of annual and perennial forb, legume, and grass plants.

- Disk the ground to a depth of 2 to 4 inches in order to achieve bare ground on approximately 50 percent of the area.
- Disk the field between July 1 (end of nesting season) and April 1 of following year (beginning of nesting season). Late summer/fall disking tends to favor broadleaves and spring disking tends to favor weedy grasses.
- Alternate disked strips that are no wider than 75 feet wide with undisturbed grass buffer strips that are at least twice the width of disked strips.
- Disk the strips on the contour/cross slope. Other disking patterns can be used (within soil erosion limits).
- Rotate between disked and undisturbed strips on a three year rotation. No more than one-third of the acreage will be treated in a year.
- See the accompanying Oklahoma Job Sheet, JS 647 01, Light Disking, for additional information and specifications.

**Criteria for Prescribed Grazing**

Domestic livestock may be used to manipulate plant succession, reduce ground litter, and provide dusting areas. Strategic timing and intensity of grazing can diversify plant communities and provide the specialized requirements of targeted wildlife species that utilize early successional habitats.

Grazing techniques that benefit wildlife utilizing early successional plant communities typically involves short-term intensive grazing to create or maintain desirable plant communities and requires careful management to assure that

long term damage to the site does not occur from overgrazing.

Use the Oklahoma NRCS Prescribed Grazing (528) standard to develop a plan that will achieve the desired level of plant disturbance. Consult with the NRCS Biologist, Range Conservationist or Grazing Lands Specialist for assistance in developing plans where grazing will be used to develop early successional habitat.

**Criteria for Prescribed Burning**

Prescribed burning can be used to remove excess litter, allow germination of seed bearing annuals, increase plant species diversity, control unwanted woody cover, and open up the stand for use and movement of small animals and birds.

- Prescribed burning can only be planned by personnel certified to conduct burns in Oklahoma
- Rotate burning on a three year rotation and burn no more than one-third of the acreage in a given year, unless specific habitat management objectives can be met by more frequent burns.
- Areas of woody protective cover such as plum, sumac, and shin oak should be protected from damage by fire where this habitat component is considered important.
- Patch burns that create a mosaic of burned and unburned areas tend to maximize habitat diversity and should be used where practical.
- Late winter and early spring burns should be used to stimulate the production of early successional forbs and legumes. Late spring burns are generally more favorable to grass production.
- Refer to the Oklahoma NRCS Prescribed Burning (338) standard and the accompanying Prescribed Burning Job Sheet, JS 338 01 for additional information and specifications.

**Criteria for Herbicide Treatment**

Selected herbicides can be used to manipulate plant succession, control brush, reduce plant

competition, control invasive and noxious plants and improve habitat diversity.

- Careful planning and care in application are required in the use of chemicals to improve existing habitat.
- Selection of a product should be based on several factors including product effectiveness, non-target species impacts, toxicological risks, and off-site movement of chemicals.
- Herbicides are to be applied only for the uses listed on the container label. Follow all directions and precautions.
- Refer to the Oklahoma NRCS Brush Management (314) and Herbaceous Weed Control (315) standards for uses, recommendations and precautions.

### **Criteria for Mowing**

Mowing is not generally an effective method for establishing and maintaining early successional habitat. It can greatly decrease plant diversity, reduce nesting cover available for the following season, and result in excessive litter without any corresponding benefits to the plant community.

Mowing will only be used in limited situations or in conjunction with other management techniques/practices. Examples include: Mowing strips prior to disking in order to increase the amount of bare ground or for controlling woody vegetation.

### **CONSIDERATIONS**

Consider delaying any disturbance activities until after August 15, thus reducing the chance of harming fledgling birds and other young wildlife.

Consider the width of disks and equipment when laying out strips in order to allow maximum efficiency.

Consider the impacts that early successional treatments will have on non-targeted species that may have different habitat requirements.

Treatment may be applied whenever succession exceeds the stage most beneficial to the targeted wildlife species.

Consider the home range and mobility of the wildlife species when determining the size and

distribution of disturbed areas. Maximum use is achieved by providing all habitat requirements in close proximity to each other.

Consider the benefit of this practice in promoting the conservation of declining species, including threatened and endangered (plant, wildlife or aquatic) species.

Consider applying this practice adjacent to other habitat components in order to maximize benefits.

### **PLANS AND SPECIFICATIONS**

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation.

### **OPERATION AND MAINTENANCE**

Actions will be carried out to ensure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application of the practice such as disking, prescribed grazing, herbicide treatments, and prescribed burning.

Operation and maintenance will include annual monitoring and management of the site.

Any use of fertilizers, pesticides and other chemicals to assure early successional management shall not compromise the intended purpose or cause impacts outside of the management area.

### **REFERENCES**

USDA NRCS Fish and Wildlife Habitat Management Leaflet Number 21, "Early Successional Habitat". Available on the NRCS website.

"Bobwhite Quail in Oklahoma, A Natural History and Management Handbook". Oklahoma Department of Wildlife Conservation, 1801 N. Lincoln Blvd., Oklahoma City, Ok 73105.

USDA, NRCS. 2005 "Light Disking to Enhance Early Successional Wildlife Habitat in Grasslands and Old Fields: Wildlife Benefits and Erosion Potential". Technical Note No. 190-32. 9 pp.